

## **AMENDMENTS**

Please amend the application as follows:

### **In the Claims:**

Please consider the following clean copy text for the pending claims of the same number.

Amended claims are identified.

1. (Currently amended) A method for extending the range of an RF communication system using a high voltage (HV) cable and neutral cable as the transmission channel, where the voltage between the cable and neutral is equal to or greater than 4,000 volts and the HV cable is simultaneously carrying low-frequency current of a power distribution system, the method comprising the steps of:

transmitting over the transmission channel, an RF signal from a central location downstream towards a remote location;

splitting the HV cable into an upstream RF segment and a downstream RF segment where the segments are RF isolated and low-frequency connected;

receiving the RF signal from the upstream RF segment at a first port of a reconditioner; directing a reconditioned RF signal from a second port of the reconditioning device to the downstream RF segment of the HV cable.

2. (Currently amended) The apparatus method of claim 1 wherein the RF isolation is provided by a low pass filter comprising blocking inductors and at least one capacitor for RF attenuation.

3. (Currently amended) The apparatus method of claim 1 wherein the reconditioner is a repeater.
4. (Currently amended) The apparatus method of claim 1 wherein the reconditioner is a regenerator.
5. (Currently amended) The apparatus method of claim 1 wherein the directing step utilizes a series capacitor and inductor arrangement with a connection going from the juncture of the capacitor and inductor to the reconditioner.
6. (Currently amended) The apparatus method of claim 1 wherein the steps are adapted for two-way communication.
7. (Currently amended) A method for extending the range of an RF communication system using a high voltage cable and neutral as the transmission channel comprising the steps of:  
forming a first RF segment and a second RF segment of the HV cable wherein the segments are low frequency connected and RF isolated;  
providing couplers for RF coupling the segments to ports on a reconditioner reconditioning device; and  
installing the reconditioner for reconditioning RF signals from each of the segments.

8. (Currently amended) The apparatus method of claim 7 wherein the forming step is provided by a low pass filter.

9. (Currently amended) The apparatus method of claim 7 wherein the coupling providing step is provided by a lightning arresters in series with a ferrites clamped on a cables.

10. (Currently amended) The apparatus method of claim 7 wherein the reconditionering of the installing step includes amplification and equalization.

11. (Currently amended) The apparatus method of claim 7 wherein the reconditionering of the installing step is provided by a regenerator having at least demodulation, decoding, encoding and modulation.

12. (Currently amended) An apparatus for isolating RF signals in a broadband data communication system having a HV cable and a neutral cable as a communication channel, the apparatus comprising:

a first RF signal on the HV cable;

a second RF signal on the HV cable;

an isolation filter for electrically isolating the first RF signal from the second RF signal, the isolation filter comprising a ladder network of one or more ferrites clamped on the HV cable and one or more capacitors connected between the HV cable and the neutral cable; and

RF couplers on each side of the isolation filter for coupling the RF signals to ports of a reconditioner.

13. (Original) The apparatus of claim 12 wherein the isolation filter is a symmetric filter.
14. (Original) The apparatus of claim 12 wherein the one or more capacitors is a power factor correction capacitor.
15. (Original) The apparatus of claim 12 wherein the RF signals are greater than 20 MHz.
16. (Original) The apparatus of claim 12 wherein the reconditioner has a processor for monitoring voltage levels within the reconditioner.
17. (Original) The apparatus of claim 12 wherein the reconditioner is a two-way repeater.
18. (Original) The apparatus of claim 12 wherein the reconditioner is a two-way regenerator.
19. (Cancelled).
20. (Cancelled).
21. (Cancelled).

22. (Currently amended) An apparatus for RF by-passing a power factor correction capacitor on a high voltage cable and directing communication signals to a reconditioner, the apparatus comprising:

a plurality of ferrites clamped on the high voltage cable next to the node formed by the high voltage cable and one lead of the capacitor cable coupling the high voltage cable to the capacitor; and

couplers connected to the high voltage cable and the reconditioner.

23. (Original) The apparatus of claim 22 wherein the reconditioner is a two-way regenerator.

24. (Original) The apparatus of claim 22 wherein the reconditioner is a two-way repeater.

25. (Currently amended) An apparatus for distributing RF communication signals from a HV cable to and from a plurality of branch circuits, the apparatus comprising:

a plurality of low pass filters for RF isolating the HV cable from each of the HV branch circuits;

a plurality of couplers where one coupler is connected to the HV cable and to each of the HV branch circuits, and

a reconditioner having a HV cable port and a HV branch port for each of the branch circuits, the reconditioner having amplifiers and filters for directing and conditioning the communication signals.

26. (Original) The apparatus of claim 25 wherein the reconditioner is a regenerator.
27. (Original) The apparatus of claim 25 wherein the reconditioner is a repeater.
28. (Original) The apparatus of claim 25 wherein the RF frequencies are in the band from 20 MHz to 200 MHz.
29. (Original) An apparatus coupling a communication signal from a transmission cable feeding a distribution substation to a distribution cable exiting the distribution substation, the apparatus comprising:
  - a transmission blocking filter for blocking the communication signal from entering the distribution substation by way of the transmission cable;
  - a transmission coupler connected to the transmission cable;
  - a distribution blocking filter for blocking RF energy from entering the distribution cable by way of the distribution cable;
  - a distribution coupler connected to the distribution cable; and
  - a reconditioner having ports connected to the couplers, the reconditioner comprising directional couplers and amplifiers.
30. (Original) The apparatus of claim 29 wherein the reconditioner is a regenerator.
31. (Original) The apparatus of claim 29 wherein the reconditioner is a repeater.

32. (Currently amended) An apparatus for coupling a communication signal on an RF coaxial cable to HV cable for upstream and downstream communication, the apparatus comprising:

    a low pass filter for isolating the and segmenting the HV cable to a downstream side and an upstream side;

    a reconditioner having a coaxial port for receiving the coaxial cable and two HV cable ports, and

    two couplers for coupling the HV cable ports to each side of the HV cable.

33. (Original) The apparatus of claim 32 wherein the reconditioner is a regenerator.

34. (Original) The apparatus of claim 32 wherein the reconditioner is a repeater.

35 to 40       (Cancelled) r of claim 36 further having a means for transferring information to a